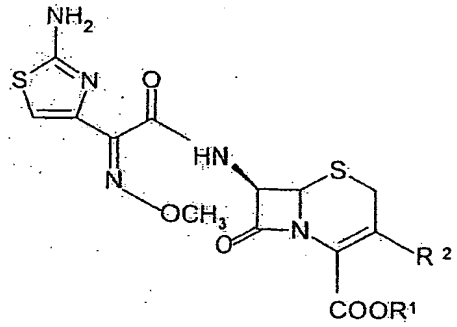
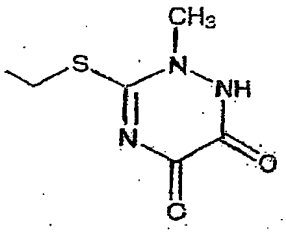
CLAIMS

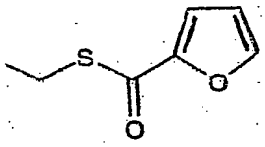
1. A process for preparing a cephalosporin of formula (I)

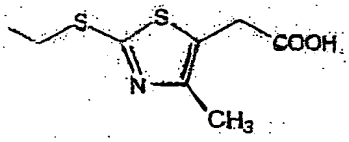


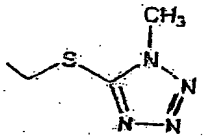
(I)

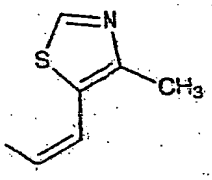
in which R^1 is H or Na and R^2 is chosen from the group consisting of H, CH_3, CH_2OCH_3, CH_2OCOCH_3, $CH=CH_2$,

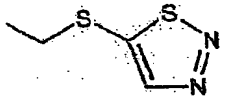




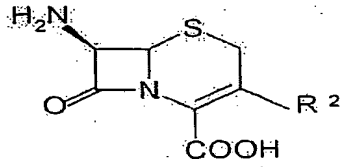








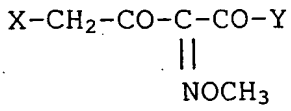
according to which a compound of formula (II)



(II)

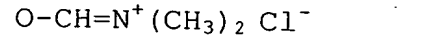
in which R^2 has the aforestated meanings is silylated at the carboxyl to give the corresponding

trialkylsilyl-ester which is reacted with a compound of formula (III)

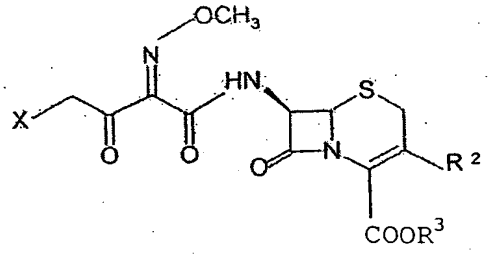


(III)

in which X is Cl or Br and Y is Cl, or

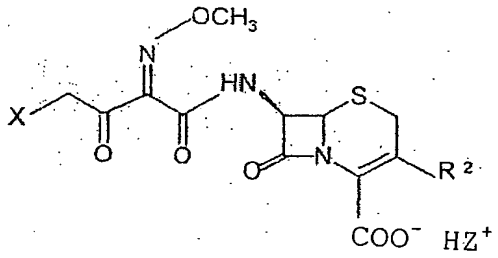


to give a cephalosporin of formula (IV)



(IV)

in which X and R^2 have the aforestated meanings, and R^3 is trialkylsilyl, which is hydrolyzed at pH 7÷7.5 and then treated in a partly aqueous solution with benzathine or a salt thereof, to obtain crystallization of a new cephalosporin of formula (V)



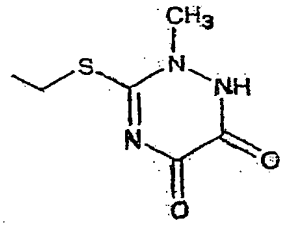
(V)

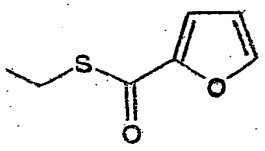
where Z is benzathine, in which the carboxyl is salified by the benzathine, this salt being filtered off, washed with water and reacted in a partly aqueous

solvent with thiourea, to lead to the formation of the 2-(2-aminothiazol-4-yl)-2-methoxyiminoacetic chain and give a solution of the compound of general formula (I) in which R^2 has the aforestated meanings and R^1 is H, the compound of formula (I) being crystallized from this solution in the form of the sodium salt, of the salt of a pharmaceutically acceptable inorganic acid or of an internal salt.

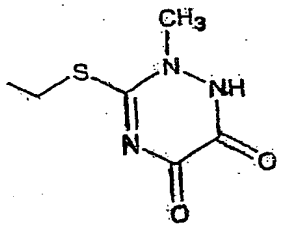
2. A process according to claim 1, wherein simultaneously with the formation of the 2-(2-aminothiazol-4-yl)-2-methoxyyminoacetic chain, there is the precipitation of benzathine hydrochloride which is filtered off and removed to leave a very pure solution of the compound of general formula (I).

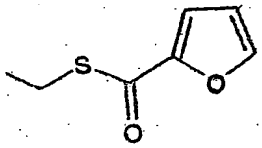
3. A process as claimed in claim 1, wherein a product of formula (I) is obtained in which R^1 is H or Na and R^2 is chosen from the group consisting of H, CH_3, CH_2OCH_3, CH_2OCOCH_3, $CH=CH_2$



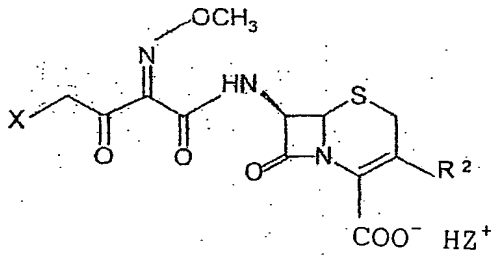


4. A process as claimed in claim 2, wherein a product of formula (I) is obtained in which R^1 is H or Na and R^2 is chosen from the group consisting of H, CH_3, CH_2OCH_3, CH_2OCOCH_3, $CH=CH_2$





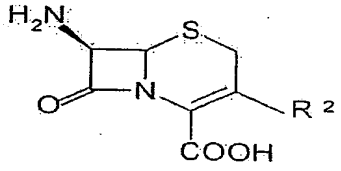
5. The benzathine salt of a cephalosporin of formula (V)



(V)

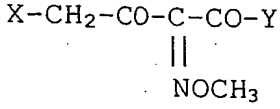
where Z, X and R^2 are as specified in claim 1.

6. A process for preparing the benzathine salt of a cephalosporin of formula (V) of claim 5, according to which a compound of formula (II)



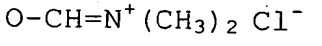
(II)

in which R^2 has the aforestated meanings, is silylated at the carboxyl to give the corresponding trialkylsilyl-ester which is reacted with a compound of formula (III)

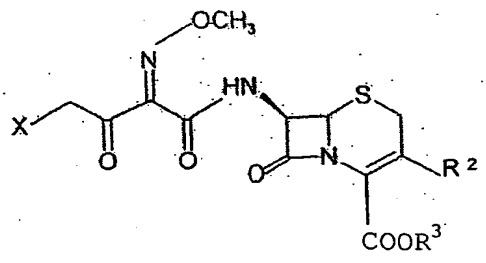


(III)

in which X is Cl or Br and Y is Cl, or



to give a cephalosporin of formula (IV)



(IV)

in which X and R^2 are as specified in claim 1, and R^3 is trialkylsilyl, which is hydrolyzed at pH 7÷7.5 and then treated in a partly aqueous solution with benzathine or a salt thereof, thus obtaining crystallization of a cephalosporin of formula (V) in which the carboxyl is salified by the benzathine, this salt being filtered off and washed with water.